

### REMARKS

Claims 1-28 are pending in this application. Claims 1, 9, and 11 have been amended. New Claims 14-28 have been added. Support for the amendments and new claims is found in the specification and claims as filed.

#### Claim Rejections under 35 U.S.C. § 102 or 35 U.S.C. § 103 - Grushkin et al.

The Examiner rejected Claims 1-12 under 35 U.S.C. § 102 or, in the alternative, under 35 U.S.C. § 103 as being obvious over Grushkin et al. (U.S. Patent 3,488,164). Applicants respectfully submit that a claim is anticipated only if each and every element set forth in the claim is found, either expressly or inherently described in a single prior art reference. See M.P.E.P. § 2131. To establish a *prima facie* case of obviousness, three basic criteria must be met: first, the prior art reference (or references when combined) must teach or suggest all the claim limitations; second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; finally, there must be a reasonable expectation of success. See M.P.E.P. § 2143. A *prima facie* case of obviousness cannot be established if the disclosure of the cited prior art, when taken as a whole, teaches away from the claimed invention. See, e.g., M.P.E.P. § 2141.02. Applicants submit that the cited reference fails to teach or suggest all of the claim limitations and that the reference in fact teaches away from the processes and reactors claimed in the amended claim set.

#### Claims 1-12

Grushkin et al. does not teach the element of supplying a first reagent stream comprising chlorine gas and a second reagent stream comprising ammonia gas to a reaction zone maintained at a temperature of less than 250°C or providing chlorine gas and ammonia gas to a reaction zone maintained under conditions effective for chlorination of ammonia, and at a temperature of less than 250°C. As stated in the subject specification, the prior art (including Grushkin et al.) actually teaches *away* from maintaining the reaction zone at a temperature of less than 250°C. See paragraph [0020] of the subject specification. For example, Grushkin et al. teaches that the reaction between chloramine and ammonia is carried out at a temperature of at least about 250°C.

See column 1, lines 48-55. The reference further states that in the preferred embodiment, the reaction is carried out a temperature of from about 275°C to about 700°C, preferably from about 290°C to about 350°C. Thus, one of skill in the art would be motivated to be motivated to carry out the reaction at a temperature greater than about 290°C, not at a temperature of less than 250°C. The reference does not anticipate or render obvious either of Claims 1 and 9 or the corresponding dependent claims, as it does not expressly or inherently teach all of the elements of these claims.

Claim 2

Grushkin et al. does not expressly or inherently teach that the reaction zone is configured such that at least about 90% of the generated ammonium chloride is formed at least about 10 mm away from any wall of the reaction zone. In fact, the reference teaches away from this element. In Examples 1 to 6, it is specified that the diameter of the concentric inert gas tube is about 2 millimeters. The figure of Grushkin et al. shows that the reaction zone 9 has a diameter only slightly larger than the diameter of the concentric inert gas tube. Thus, it is clear that the diameter of the reaction zone 9 is less than 10 mm. Due to this small diameter, it does not seem possible for *any* of ammonium chloride to be formed at least about 10 mm away from any wall of the reaction zone, much less for 90% of the ammonium chloride to be formed at least about 10 mm away from any wall of the reaction zone. Thus, Claim 2 is neither anticipated by nor obvious over Grushkin et al.

Claim Rejections under 35 U.S.C. § 102 or 35 U.S.C. § 103 - Holst et al.

Claims 11-13 have been rejected under 35 U.S.C. § 102 or, in the alternative, under 35 U.S.C. § 103 as being obvious over Holst et al. (U.S. Patent 3,488,164). Applicants respectfully submit that a claim is anticipated only if each and every element set for in the claim is found, either expressly or inherently described in a single prior art reference. See M.P.E.P. § 2131. To establish a *prima facie* case of obviousness, three basic criteria must be met: first, the prior art reference (or references when combined) must teach or suggest all the claim limitations; second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to

combine reference teachings; finally, there must be a reasonable expectation of success. *See* M.P.E.P. § 2143. A *prima facie* case of obviousness cannot be established if the disclosure of the cited prior art, when taken as a whole, teaches away from the claimed invention. *See, e.g.,* M.P.E.P. § 2141.02.

Holst et al. does not teach that the reaction zone is configured to be maintained at a temperature of less than 250°C. In fact, the reference teaches that the oxidation unit is heated. *See, for example,* column 10, line 24; column 12, line 34-38 and column 12, line 40. The reference teaches that minimum temperature conditions may be required to achieve ignition and destruction of oxidizable components in the oxidation unit and presents strategies for preventing particle agglomeration and accumulation that may be associated with the high temperatures. *See* column 10, line 54-column 11, line 11. Thus, not only does the reference not expressly or inherently teach that the reaction zone is configured to be maintained at a temperature of less than 250°C, but it teaches that high temperatures are necessary for the reaction, teaching away from maintaining temperatures as claimed in Claim 11. Therefore, Claims 11-13 are neither anticipated by nor obvious over Holst et al.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, the Applicants are not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. The Applicants reserve the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that the Applicants have made any disclaimers or disavowals of any subject matter supported by the present application.

**Application No.:** 10/588,562  
**Filing Date:** September 29, 2006

Conclusion

Applicant has endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. In light of the above amendments and remarks, reconsideration and withdrawal of the outstanding rejections is respectfully requested. If the Examiner has any questions which may be answered by telephone, he is invited to call the undersigned directly.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: \_\_\_\_\_

12/10/07

By: \_\_\_\_\_

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AMEND

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